ADEQ Arizona Department of Environmental Quality

Meeting Minutes

Klondyke Tailings
Water Quality Assurance Revolving Fund (WQARF) Site

Community Advisory Board Meeting

DRAFT MINUTES

Thursday, September 7, 2006
Klondyke School House
500 ft Southwest of 36951 Klondyke Road
Klondyke, Arizona

OU# 07-035

CAB members present: Mark Haberstich (Co-chair), Lynn Skinner (Co-chair), Michael Bryce, and Bill Griffin

Members absent**:** Noralea Gale, Lauralea Bott, John Luepke, and Mark Herrington

ADEQ Staff in attendance: Scott Goodwin (Project Manager), Linda Mariner (Community Involvement Coordinator), Julie Riemenschneider (Remedial Projects Unit Manager), and Mel Taylor (SE Community Liaison)

Members of the public present: Jay and Ginny Schnell, Cathy Gorman, Philip Hedrick, Jon Wimberly, John Stoddard, John Bacorn (AZ Game & Fish), Don Mitchell (AZ Game & Fish), Melissa Amentt (Bureau of Land Management), and Adam Gaub (Safford Courier).

The meeting began at 4:15 p.m.

1. **Welcome and Introductions**

Mr. Skinner opened the meeting. Introductions of Community Advisory Board (CAB) members, ADEQ staff, and members of the public were made. **Since no quorum of the CAB was present, all the CAB business was tabled until the next meeting.**

2. **Results of Early Response Action (ERA) – Scott Goodwin**

Mr. Goodwin showed a slide presentation that explained the ERA results for fiscal year 2006. Expenditures totaled $45,729 for the following activities:

- Removal of small amounts of laboratory reagents left on the property including approximately ten pounds of lead and zinc contaminated containers, two pounds of liquid pesticide, 50 pounds of fertilizer, and 25 pounds of waste paint related material.

- Excavation and identification of geophysical targets located during the 2002 geophysical survey consisting of metal balls that were used in the milling process, copper grounding wire, metal pipe, other miscellaneous metal debris, a metal septic system, and a partially buried drum and drum carcass. No stained soils were noted during the excavations.
- Removal of drums, tanks and pipelines including two drums containing tar and another drum containing a petroleum-based parts cleaner.
- Repair of major erosion areas on the tailing piles at five locations to contain rainfall on the tailings piles.

Mr. Haberstich asked about a past report of buried cyanide on the site. Mr. Goodwin clarified that no cyanide was found in any of the drums. No cyanide was found in the groundwater samples either. There were no discolorations in the soil, and soil samples are already analyzed for cyanide so no additional soil samples were tested for cyanide.

3. Sampling Results and Site Update – Scott Goodwin

Mr. Goodwin displayed a large map and showed where surface soil samples were collected from a depth of three inches to determine the extent of impacted soils. The soils were analyzed with x-ray fluorescence (XRF). Approximately 10 % of samples are sent to a laboratory for conformation. The results of approximately 600 surface samples taken on the tailings property showed that a majority of the property was impacted with lead above the non-residential soil remediation standards for lead, which is 2000 milligrams per kilogram (mg/kg). There were also some exceedences for arsenic, cadmium, manganese and mercury at some locations. A few samples collected at deeper depths on the tailings property indicated contamination at the depth of five feet in some areas.

Approximately 200 soil samples were collected from five properties adjacent to the tailings. Analysis of the samples indicated exceedences for arsenic, beryllium and lead for residential soil remediation standards. The extent of the lead impacted soils on the adjacent properties has not been defined at this time. Expenditures for FY 06 totaled $277,100 for sampling activities.

Ms. Amentt asked what SRLs were. Mr. Goodwin responded that it literally stood for soil remediation levels (SRLs), and these were clean-up standards for soil. Another person wanted to know what the soil standard for lead was for non-residential property. Mr. Goodwin's answer was that the SRL for lead for non-residential land is 2000 mg/kg and that residential property is 400 mg/kg.

Soil samples from the active channel of Aravaipa Creek near the site and the channel of Laurel Creek did not show high amounts of lead at most of the locations. Four monitor wells were installed and sampled quarterly for metals, cyanide, nitrate, nitrite, and major cations and anions. None of the samples exceeded Aquifer Water Quality Standards.

4. Results of Recent Flooding of Aravaipa and Laurel Creeks – Scott Goodwin

Major flooding occurred on Aravaipa and Laurel Creeks from July 28–August 1, 2006 due to heavy rains. ADEQ's contractor, URS Corporation, attempted a site visit on August 5th, but they could not reach the site. Site visits were accomplished on August 8th and August 12th, and URS staff were able to take the pictures that were distributed in a photo log at the meeting.

Local residents announced that the USGS stream gauge on Aravaipa Creek near Mammoth had broken during the flood, and it was now estimated that the stream flowed at 20,000 cubic feet per second (cfs) instead of the 5,000 cfs that was recorded on the web site.

The flood altered the Aravaipa Creek channel upstream of the tailings. Water also flowed across the process area between the tailings piles to a depth of approximately seven inches. Laurel Creek overflowed the privately constructed berms, cut a new channel on the tailings property, or entered an abandoned channel, and impacted a portion of the downstream tailings pile. Surface water samples were collected from Aravaipa Creek, but no results were available yet.

Mr. Goodwin took the CAB members though the photo log taken at the WQARF site after the flooding on Aravaipa and Laurel Creeks. He showed on the map where each picture was taken and explained the stream direction the camera was pointing.

Mr. Haberstich asked whether the tailings pile berm in one of the pictures that contains stormwater on the pile is designed to allow rain water to evaporate or infiltrate. Mr. Goodwin suspected that not much infiltration would occur because of the fine material of the tailings, so he believed that most of the ponded water would evaporate.

5. Site Plans for FY07 – Scott Goodwin

Mr. Goodwin explained that he would attempt to gain access to eight additional properties near the tailings to collect soil samples. ADEQ will collect surfical samples, samples from six inches deep, and samples from one foot deep to attempt to define the extent of metals-impacted soils. ADEQ will also continue to sample monitor wells at the tailings property. One round of samples will be analyzed for volatile organic compounds and semi-volatile organic compounds.

More ERA activities are planned. Based on the recent flooding, ADEQ is concerned that consolidating the tailings or constructing berms in the floodplain may have adversely impacted adjoining properties. Therefore, proposed remedies will need to be re-evaluated considering the new conditions. ADEQ has suggested that URS sub-contract with Fuller Hydrology to evaluate and possible model the impacts of the most recent flood as if the proposed ERA remedy and possible alternative options were in place at the time of the flood.

Ms. Gorman asked if ADEQ planned on keeping the tailings on the site, and Mr. Goodwin explained that for cost purposes alone, it's best to keep the tailings in place. Moving them would cost in the neighborhood of $75 million.

Mr. Stoddard asked if it was in 1993 that ADEQ was made aware of the tailings problem, and if so, when the first soil sample was taken. Mr. Goodwin confirmed that some soil samples were taken from the tailings in 1993 and again in 1995.

Mr. Skinner asked whether the jacks discussed at previous meetings as an option to keep Araivapia from eroding were still being considered. Mr. Goodwin explained that although they were mentioned in the ERA evaluation report, URS did not recommend using them because it would not do anything to consolidate the piles or protect them from rain and floods. Mr. Goodwin admitted that his viewpoint has changed in the sense that the recent flooding situation has increased the urgency to get the contamination that has spread to adjacent properties back to the tailings piles and find a way to keep it there. The plan now is to decide on an emergency remedial action to consolidate the tailings as quickly and safely as possible.

Mr. Hedrick asked if ADEQ was going to monitor the effects of the flooding further downstream in Aravaipa Creek. Mr. Goodwin stated that ADEQ has no plans to re-sample fish. In 1997 the fish sampling results showed some contamination, but the fish population was still thriving. The focus right now is to find out how big of a problem there is with the migration of the tailings onto other properties and then consolidate the tailings.

Mr. Hedrick stated that downstream wells impacted by the flood were also a concern to residents. Mr. Goodwin said that many of the private wells in the area have already been sampled, but anyone can request their well be sampled if they think they are at risk. Mr. Hedrick asked if the wells are re-checked after flood events. Mr. Goodwin said that they would only be resampled if the well's design failed and surface water had entered the well.

Mr. Stoddard asked how far outside of the tailing pile samples were taken back in 1993. Mr. Goodwin responded that samples were taken only on the tailings or between the piles. Mr. Stoddard remembered that ADEQ personnel were on his property sometime in 1995 taking samples of some kind. Mr. Goodwin wasn't aware of that, but he said he'd check into who it might have been.

Ms. Amentt asked why the new data since the flood wasn't being included in the hydrology modeling for the ERA. Mr. Goodwin clarified that the reason ADEQ is doing the modeling over again is to put in the new site conditions to try to figure out if the previous ERA ideas would still work. She also asked what kind of vegetation grew upstream of Klondyke. Mr. Goodwin responded that it was mostly mesquite trees.

Questions were asked about any recent fish or frog studies that ADEQ might have done. Mr. Goodwin was aware of the 1997 fish study, but nothing since then. Mr. Haberstich commented that Peter Rinethal from the U of A was doing some fish studies in Aravaipa.

A member of the public asked about whether the impact of the consolidation of the piles has been discussed regarding the owner's plans for future use of the property. Mr. Goodwin felt the answer at this time was to consolidate the tailings, cover them with a cap, and protect Aravaipa Creek from eroding the piles. Mr. Griffin asked if ADEQ was planning on doing anything with Laurel Creek. Mr. Goodwin emphasized that ADEQ has no plans to control Laurel Creek and its flood water.

Mr. Goodwin was asked if he had any kind of timeframe for when ADEQ will have a solid plan for remedial action. He explained that the best solution will be possible only when the results of the flooding are evaluated, and then that plan must go through the Army Corps of Engineers for 404 permitting in the floodplain. Therefore, no firm timeframe can be given yet.

Ms. Riemenschneider clarified that the approval process for any work to be done in a floodplain can be quite lengthy (six months to a year). The Corps issues all permits that allow work in a stream bed or floodplain. They will not issue that permit without reviewing the plans for the work to be done. Any work done without that permit is illegal.

Mr. Stoddard informed the group about the fact that some of his neighbors are not conforming to that law and consequently have damaged property downstream by bulldozing in Laurel Creek. He explained that a dike put in upstream of his property did $5,000 damage to his property when

the stream flooded. He feels he has been penalized because no one seems to be enforcing that law in the Klondyke area.

In response to the suggestion to put a berm on the lower tailings pile by Laurel Creek, Mr. Goodwin thought that a temporary patch or berm may be considered by ADEQ to protect the tailings at least until the next significant flood washes it out.

6. 2006 WQARF Registry Report – Linda Mariner

Ms. Mariner explained that state law requires ADEQ to produce and publish an annual registry report of all the WQARF sites in Arizona and their status for public information. Currently, there are 35 WQARF sites in Arizona. Everyone was encouraged to take a report for future reference.

7. Call to public –

Mr. Haberstich asked if there was a chance that the recent flooding might have washed away the wind-deposited contamination on the adjacent properties or washed it into the creek. Mr. Goodwin thought it was certainly possible on Mr. Stoddard's property. Mr. Haberstich then asked if this would alter the plans for a clean up of the adjacent properties. Mr. Goodwin said that the plans remained the same except that Mr. Stoddard's property will be re-sampled.

Ms. Amentt asked if ADEQ was going to do anything to stop the tailings from eroding before the winter rains begin. Mr. Goodwin's response was that until a plan for remediation has been decided on, no work on the site will occur.

8. Future meeting plans:

The next CAB meeting was set for Wednesday, April 25, 2007 from 4:00 pm to 6:00 pm at the Graham County General Services Building in Safford. Proposed agenda items for the next meeting included all the tabled agenda items, more soil sampling results, surface water sampling results, and possibly ERA models.

The meeting ended at 5:10 p.m.